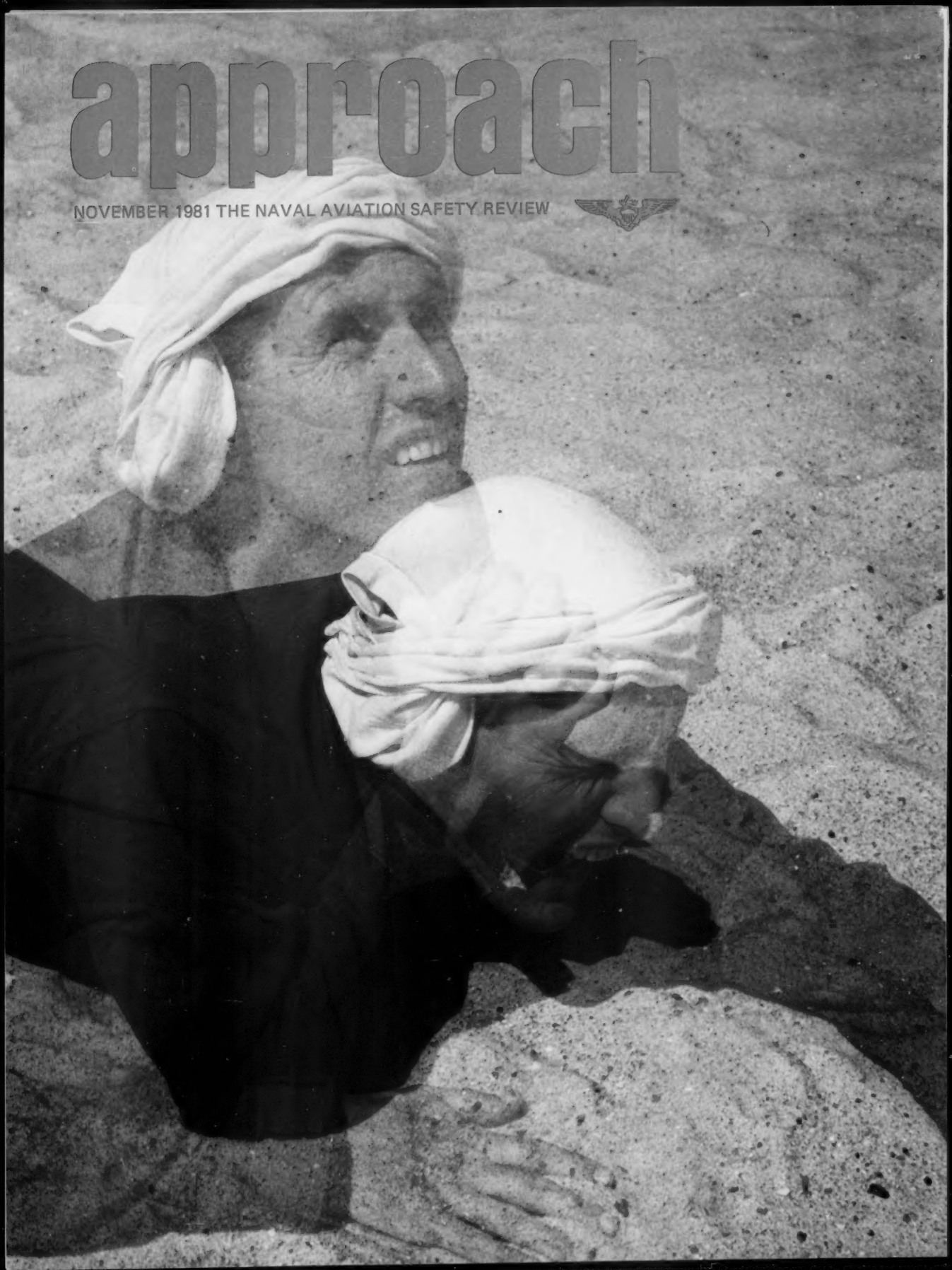
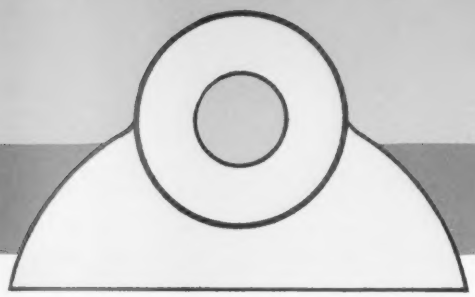
approach

NOVEMBER 1981 THE NAVAL AVIATION SAFETY REVIEW





Selective Flight Scheduling

The need for command attention in all flying squadrons of the ongoing process of selective scheduling is herewith underscored. The schedules officer in any squadron holds the key to overall successful flight operations. The current knowledge required to properly schedule squadron personnel to conduct the wide scope of flight operations inherent in any type of operating squadron cannot be obtained from any single source. Cold numbers on a qualification board denoting a given percent of qualification are not enough.

The individual pilot must be known, and variables such as currency, number of hours flown during the preceding 7 days and 30 days, physical condition, mental attitude, and known aviation skill strengths and weaknesses are but a few of the factors that all schedules officers must be fully aware of if they are to successfully schedule the pilots in their squadron. But the process cannot stop there.

Authority can be delegated, but responsibility cannot. The operations officer must be the key to a successful scheduling process, for he provides the checks and balances to the system. All too often, flight schedules are written, typed, and published under a "By direction authority," signed by the schedules officer, and never viewed by the operations officer or the commanding officer. Such a procedure invites disaster. Every schedules officer must be prepared to answer detailed questions regarding the flight schedule he has written, and the questions should be asked each day by the operations officer and the commanding officer to ensure that the schedules officer is, in fact, selectively scheduling the pilots in that command. Through selective scheduling, a commander is ensuring that his pilots are qualified to fly the mission they have been assigned. It is a basic responsibility of any commander and one that he should jealously guard.

Commanding officers who demonstrate this fundamental interest will thus ensure that aircrews with complementary experience, qualifications, and recent flight time are scheduled to enhance training, NATOPS standardization, and the capability to effectively handle emergency situations should they arise. Immediate cancellation of any flight that cannot be confidently supported is the final responsibility of all commanding officers, with the supportive assistance of operations and operations duty officers. The demonstration of responsibility such as this should certainly be expected of all officers and is well within the letter and spirit of existing policies and directives, all of which are based on plain good sense.

The concepts expressed in this article reinforce the current trend to consider not only a crew's currency in the aircraft but their currency in a particular mission, as well. – Ed.

Vol. 27 No. 5

approach

NAVAIR 00-75-510

The cover photo is meant to depict the internal personal struggle experienced in a critical survival situation. See page 2 for more on this subject. Photo by LT Dale Smith.

The Psychology of Survival 2

By LT John Deaton, MSC. Your will to live may determine whether or not you do!

TERF Is Tough 18

By Russ Forbush. Safe terrain flight is a complex task.

Egress From Smoke-Filled Compartments 28

By Richard A. Eldridge. A new piece of equipment to help you get out.

A Night to Remember 9

By LCDR Russ Davis

After the Fire's Gone Out 10

By LT Mike Bowers

Anymouse 12

LTJG Bowie Tewbes: SAR Victim 14

By LCDR Steve Hawkins

Dilbert at the Bounce 16

By LT C. T. Butler

Setting the Spirits Straight 23

By Russ Forbush

Airshow Static Displays 24

By LT Tim Sparks

Bravo Zulu 26

Translational Transition 32

By LCDR Walter K. Steiner

RADM T. C. Steele, Commander, Naval Safety Center

CAPT Henri B. Chase, Director, Aviation Safety Programs

CDR William J. Isenhour, Head, Safety Publications
LT Dale E. Smith, Editor
LT Colin Sargent, Managing Editor
Robert Trotter, Art Director
Russ T. Forbush, Helicopter Writer
Bill Peters, Fixed-Wing Writer
Blake Rader, Illustrator
Jack LaBar, Illustrator
Frank L. Smith, Graphics
PH3 Ronald K. Bellenot, Photographer
Catherine M. Wizieck, Editorial Assistant
Patricia A. Kinter, Type Composer
Robin C. Miller, Type Composer
Doris Sumner, Circulation

Contents should not be considered as regulations, orders, or directives and may not be construed as incriminating under Art. 31, UCMJ. Views of guest-written articles are not necessarily those of NAVSAFECEN. Photos are Official Navy or as credited. Photographs used have no strict relationship to the text. Official distribution handled by NAVSAFECEN, Safety Pub. Dept., NAS Norfolk, VA 23511. Phone: (804) 444-1321; Autovon 690-1321. Printed in accordance with Dept. of the Navy Publications and Printing Regulations, NAVEXOS P-35. Library of Congress Catalog No. 57 60020.

One man, stranded without food or water on a vast stretch of Arizona desert for 8 days, traveled 150 miles while exposed to daytime temperatures as high as 120° F. The lack of water caused him to lose 25 percent of his weight through dehydration. He crawled the last 8 miles completely naked. Doctors found his blood had become so thickened that the lacerations he suffered did not bleed until he had taken a considerable amount of water into his system. He had done nothing right and had no knowledge of survival techniques. But he'd wanted to survive, and did — through nothing but willpower and the grace of God.

The Psychology of Survival

By LT John E. Deaton
Aerospace Experimental Psychologist
COMNAVAIRLANT Staff

Photos by LT Dale Smith and PH3 Ron Bellenot

THE urge to survive is basic in both humans and animals. It underlies all of man's relations and adjustments to his society and culture. Traditionally, survival has been divided into three categories: biological, economic, or social. I believe an additional category should be included in this list. In a survival situation, one must be cognizant of *psychological* survival.

It goes without saying that the stress involved in a forced landing or emergency egress from an aircraft at sea or in remote land areas is considerable. When faced with such a survival situation, it is best to remember several facts. First, the obstacles to be overcome are not so much physical as mental. Except for ocean landings, the terrain you find yourself in has, in all probability, been covered by others, and some people may even make it their home. With varying degrees of effort, these people have adjusted to demands of terrain, climate, and environment. Your problem is merely that, because you did not expect to land there, you are not prepared to live there. Chances are you never expect to crash into a jungle or bail out over the ocean. Regardless of your flight preparations, you will probably remain unconvinced that "it can happen to you."

But emergencies do happen, as the records show. Accordingly, before collecting survival facts and information on how to live off the land, it is important to understand the psychological obstacles that must be overcome. The first obstacle occurs immediately after egress from the aircraft. Most people go into a state of emotional shock, called "panic reaction." Although the degree of shock varies with each individual, many people feel confused. You can't think clearly; you need time to adjust to the situation. In that respect, the shock can be a detriment to survival. Try to relax, and give yourself a few minutes to calm down. Assess the extent of injuries, and apply basic first aid if necessary. While some people may experience fear and overpowering anxiety, most individuals are capable of making tremendous efforts to adjust, particularly if previous training has prepared them for this very moment. It is at this point that you should make the effort to maintain or regain both mental and physical control of your faculties.

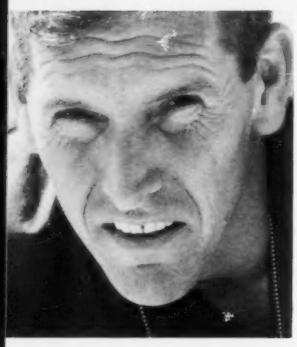
A normal, human, panic reaction can be very useful. When you are afraid, your body becomes more alert, you hear better, you see better, you think more quickly, you can perform amazing feats of strength. Fear is the reaction that prepares you to get out of a situation. If you control it, fear is a very valuable tool for survival. And you can control fear if you recognize that it is or will be present. In summary, in the initial period of shock and fear, you must analyze the situation, take care of immediate needs, make a plan, and follow it.

While we're on the topic of panic it may well be worth the time to discuss a concept which receives little consideration in survival literature. I'm talking about the administering of psychological first aid. The American Psychiatric Association offers a number of practical suggestions for administering psychological first aid to disaster victims who undergo extreme stress reactions (severe panic, for example). It's difficult to predict how some people will react in survival situations. Could you look at the men around you, men in your group, men you see every day, and say for certain which ones would hold up best mentally under the strains of survival? You would be an exceptional judge of people, with some sort of sixth

sense, if you could. Men who might be considered weak, not so well adjusted, or flighty may turn out to be strong, courageous, and solid as a rock in survival situations.

The American Psychiatric Association states that little or no help will be required by persons who remain calm and useful in the face of emergency. Still, a few words of sympathy and encouragement in passing can be well worthwhile. A good general rule is that psychological first aid is necessary only for those persons who are obviously losing control of themselves or are making no noticeable progress toward resumption of normal behavior.

Persons in blind panic will respond least to attempts to get their attention. They will be disturbing to all about them and may very easily provide the ingredients for general panic. Consequently, controlling them and separating them from the group is vital. How this is done will depend largely on the facilities available. First, gentle firmness and kindness should be tried. If this fails, the help of two or three others should be obtained to restrain the individual. The widespread belief that a person in panic can be jolted out of his confusion by being slapped in the face, by being doused with cold water, or by other forms of abuse is unsound. Such tactics may interrupt the disorganized behavior, but only briefly. In the midst of disaster tensions, striking a disturbed person will not only fail, as a rule, to control his panic, but it will also greatly increase the anxiety of others who may be on the verge of similar panic.



Generally, a person in acute panic, aroused by the stress and strain of an emergency, will quiet down in 5 to 10 minutes if restrained firmly but patiently. As the victim becomes more responsive, simple statements of how he might be helpful to the group can speed recovery.

For depressed persons, the best results can be obtained by making suggestions for simple, routine jobs they might undertake. As constructive interest is sensed, their private worlds no longer seem quite so desolate.

This brief discussion of psychological first aid, while certainly not complete, will hopefully help you in returning a moderately disturbed buddy to reasonably good function in a short time. As these individuals regain usefulness and get back into stride, they tend to regain self-confidence and self-respect. Even though psychological first aid may not be quite so effective for some of the more seriously disturbed members, it can make these individuals as comfortable as possible until they can be given more complete professional care.

Guide for Psychological Survival. Other phases of your survival training have shown you how to control and use your physical survival equipment. This final section covers the way you control and use your mind as an instrument to plan, to think, to remember, to imagine, to invent, to hope, to control yourself, to direct yourself.

Here are nine points that will give you a basis for remembering the side of survival that goes on in your mind – the most important part of survival:

- Face the possibility every day.
- Reorganize in the crisis moment.
- Set definite goals.
- Control your fears.
- Maintain a sense of humor.
- Don't give in to anything.

APPROACH (USPS 016-510) is a monthly publication published by Commander, Naval Safety Center, Norfolk, VA 23511. Subscription price is $15.00 per year, $3.75 additional for foreign mailing. Subscription requests should be directed to: Superintendent of Documents, Government Printing Office, Washington, DC 20402. Controlled circulation postage paid at Norfolk, VA.

- Keep busy.
- Remain flexible.
- Maintain a positive attitude.

This is not oversimplification. One or all of these points will keep you alive, as they have saved other men. The following will discuss each point in detail.

Face the Possibility Every Day. No matter what the physical conditions are, the most dangerous kind of survival situation mentally is the one that comes as a big surprise. Wherever you're going, whatever you're doing, there should be no such thing in your mind as "the unexpected." Hoping for the best but being prepared for the worst is the everyday attitude that will definitely increase your survival chances. This man had the ideal mental preparation for survival:

"It was almost as if I were acting out what I had rehearsed many times. I was always sent on a mission like this. I tried to keep in mind all the information I would need if it happened. You may never use it, but suddenly you may have to use it."

But when your guard is down – that's the day it will probably happen:

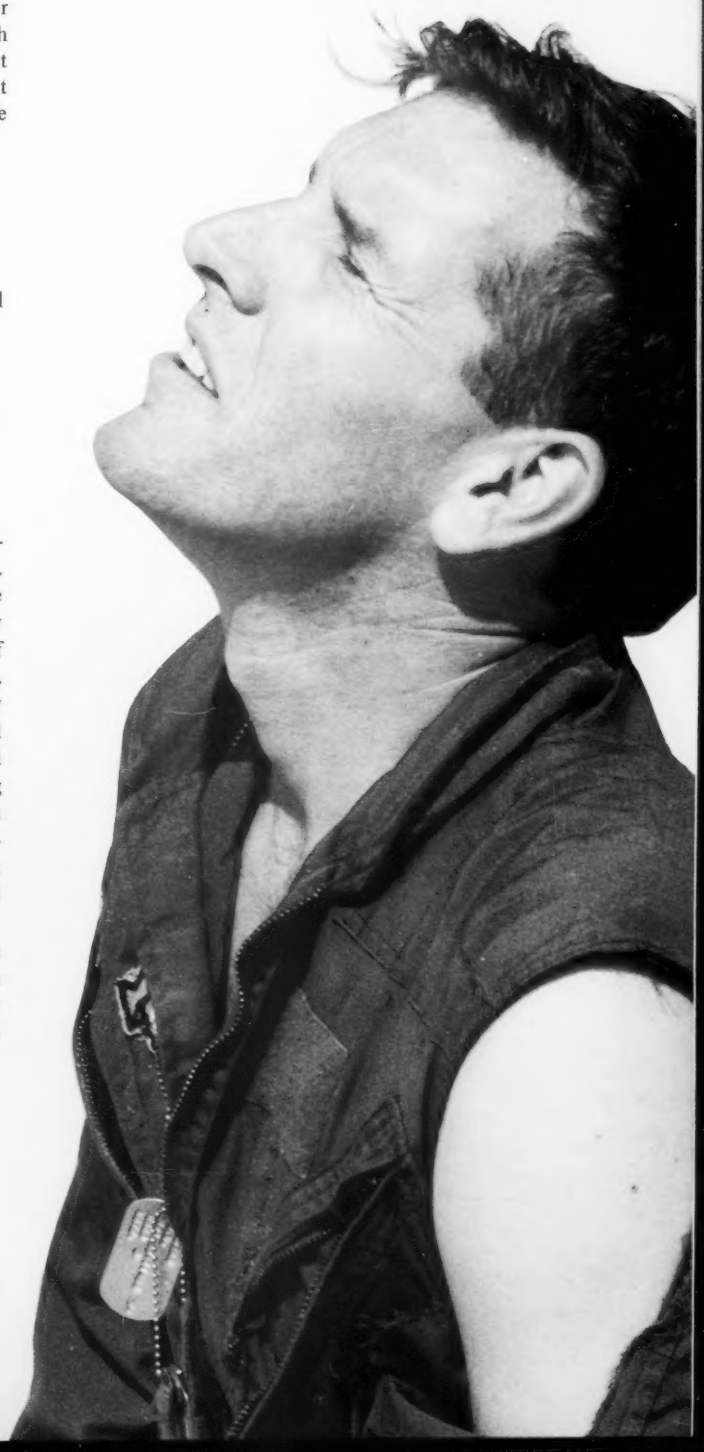
"Before taking off for the mission, all arrangements had been made for me to go to a rest camp upon my return. Of all times, I least expected it on this day. I was just panic-stricken for a while and froze up. It was such an unexpected thing that I was just not quick enough to realize what was really happening."

In far more cases than will ever be known, the mental unpreparedness of not checking on equipment results in death. Many fliers attribute their survival to having checked, just the day before, their radio, parachute, or other equipment. Many tell of suffering or of others failing to survive because of neglecting to check equipment or an established procedure. Confidence in your ability to survive can best be developed by adequately training in the environment in which you may find yourself. This can be accomplished through demonstration and practice of proven survival techniques and "hands-on" training with aviation life support equipment. The realization that you can think rationally and perform calmly in a stressful environment greatly enhances your probability of survival. Diligent practice of appropriate survival procedures leads to increased confidence and "success under stress."

Reorganize in the Crisis Moment. Reorganizing in the crisis moment means bringing to your aid all the helpful ideas you can recall. This will happen automatically if you're relatively calm and have been smart enough to "tuck away" what information you have heard.

"While floating down, I remembered hearing about some people having trouble getting out of the harness in the water, so I opened my leg strap while about 1,500 feet up, and about 500 feet up, I opened the chest strap. Then, as my feet hit the water, I raised my arms and slid out of the harness."

Continued



If you don't reorganize in the crisis, you're in real trouble (unless someone is nearby to do it for you):

"I had dye marker, flares, and a signal mirror. I don't know why I didn't use any of them, but I was excited and hadn't ever used them before. I even forgot that I had them. If the pilot flying over me hadn't dropped some dye marker near me, the helicopter pilot probably wouldn't have been able to spot me."

Nobody says it's easy to be calm. During the emergency egress phase and the subsequent stages of recovery, it is normal to doubt your ability to react successfully. Military educators have recognized this and have attempted to condition you to the eventualities of survival. Be assured that your previous training has prepared you to overcome the fear you will certainly experience. By maintaining familiarity with your equipment and its function, you will be able to reorganize your thinking and meet danger with courage and the assurance that you will succeed.

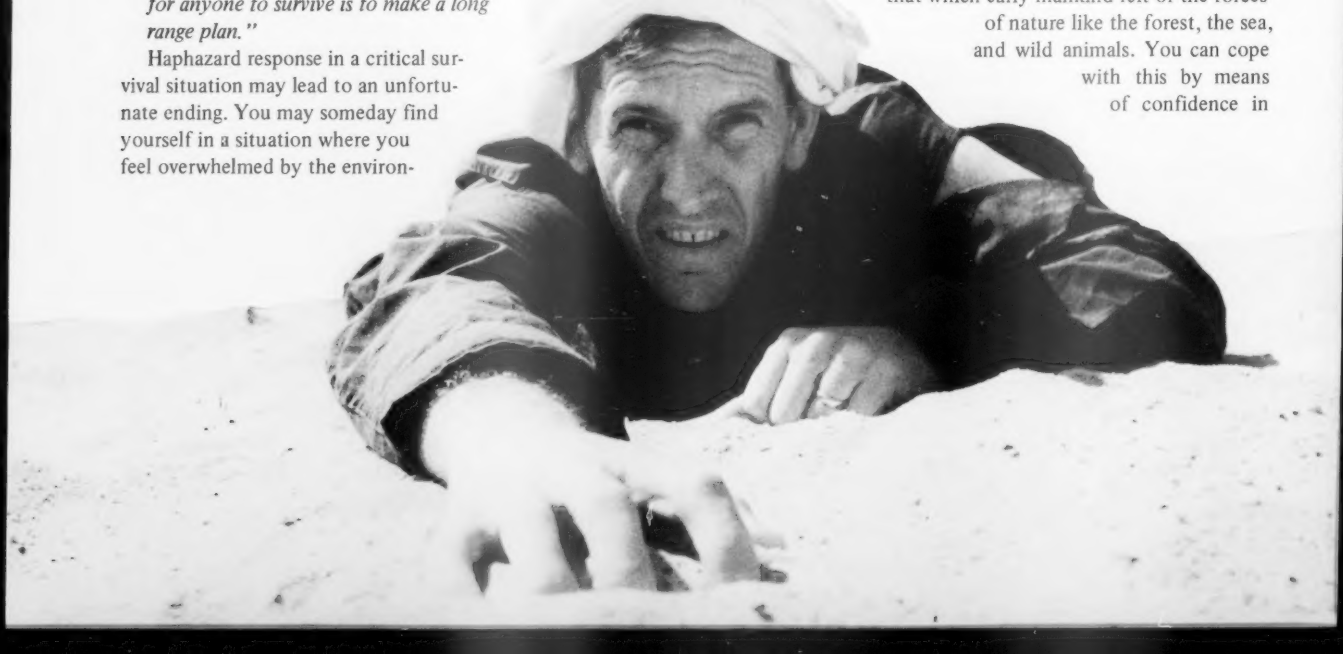
Set Definite Goals. Whatever your basic needs, whatever you have to contend with, whether it's cold, hunger, thirst, or something else, you'll need resourcefulness, self-control, and the ability to visualize a future objective and gear yourself to it. Your ultimate objective is survival, but you'll have to reach it by setting intermediate goals along the way. An extra mental advantage to this is that it pulls all your faculties together, gives you a definite point to concentrate your attention on, and gives you immediate hope. This is the voice of survival experience:

"The trouble was that I had no real plan. It was a hit or miss approach. I took a sudden direction and hoped I got out. I was inadequate to survive and had no preparation whatsoever, no plan whatsoever. My advice for anyone to survive is to make a long range plan."

Haphazard response in a critical survival situation may lead to an unfortunate ending. You may someday find yourself in a situation where you feel overwhelmed by the environment: you are cold (hot), hungry, thirsty, possibly injured. In such a situation, remember to establish priorities, and set some goals for yourself. Treat the injury as best you can, since that may be most critical at this point. Prepare a signal fire, and set about making a shelter and searching for food and water. Goal-directed behavior is a motivator and, as such, generates and helps to maintain your will to live. The intelligent discipline and organization with which the individual approaches the problem determines the success of any survival procedure.

Control Your Fears. Setting a definite goal does its part in calming you down, because it replaces the feared unknown with the expected known. Everyone is afraid at some time. Some people are afraid a great deal of the time. Fear is a human characteristic. It always has a purpose. Normally, it is a form of discomfort intended to pull you together, to get your body and mind organized for action. Panic is the reaction in the individual who is not prepared for fear, who hasn't been trained or hasn't trained himself to control it. To protect yourself in future emergencies, you can work on your fear-reaction habits now. You can train yourself to control fear by seeing it as natural and useful, a normal function that constantly stands ready to do a necessary organizational task in an emergency. Be prepared to live with it, use it, do something under conscious control when you feel it, act purposefully in spite of it, make its mental, chemical, and muscular effects work for you, not against you.

When fear appears, it is up to you to use it constructively. Only you decide which way it will go. Whether you use it, by taking advantage of its natural function, to pull yourself together or whether you let yourself become disorganized and go to pieces is strictly up to you. In survival, your first fear on landing will be a natural and primitive one, similar to that which early mankind felt of the forces of nature like the forest, the sea, and wild animals. You can cope with this by means of confidence in



your modern equipment and the advanced knowledge you have about dealing with nature.

And don't forget another means of coping with this basic fear. Call upon whatever religious teaching, training, and faith you may have to sustain you. It has worked for many survivors:

"We took turns reading the Bible. This had an extremely stabilizing effect on us."

Maintain a Sense of Humor.

"There was this damn cockroach punching me in the beak, wanting my piece of bread. It reminded me that the one thing worse than finding a cockroach in your soup is finding half a cockroach in your soup."

– Former Vietnam POW

Cheerfulness, or a sense of humor, has been pointed out as a factor which influences one's survival favorably. To be able to laugh at oneself and one's foibles, even in adverse conditions, allows one to transcend even the most dismal situation. A sense of humor has been associated with a healthy mental attitude, as the following quote will attest:

"Right in the midst of the big germ warfare campaign, we caught a rat. The rat acquired a parachute and a USAF tag before being hung on a bush by the front gate. The chief commissar, a dainty air-fairy type, found it. He did three double flips and raced hysterically back to his headquarters. Then the officials came to investigate and take pictures for their files of proof of bacteriological warfare! We roared with glee, to their complete confusion. That spoof had us laughing for weeks, and such laughter kept us alive."

–Former Korean POW

We are all able to face reality in a much better frame of mind if we can maintain a humorous attitude. Of course, survival is a serious business. Still, those of us who can "go beyond" our present circumstances, thinking of the future, will be in a much better mental state to withstand increased physical and mental demands.

Don't Give in to Anything. By now, you have material enough to begin to sum up the psychology of survival for yourself. Story after story tells you one thing. The man who yields is lost. Survival is tough – it takes a little something extra – and the tragic stories are usually about men who didn't understand they had it in them to carry on just a little further. Survival is a war in itself, a personal war against giving in. Physically, you'll find that when you need it, you always have a little bit more if you call upon yourself to continue:

"The shore was about 50 yards away, but I experienced extreme difficulty in swimming due to the incoming tide. Several times I had to turn on my back and try to float and propel myself with only my feet. It was only with extreme effort that I was able to make the shore. Upon reaching it, I was completely exhausted and in a state of partial shock, but forced myself to go on."

As a matter of fact, you'll find that your mind and your will have the power to call on your body for much more than the measurable capacities of any human being. Giving in to a desire for momentary relief is the worst mistake you can make in a critical survival situation. To a man whose very life is in danger, fatigue is a false signal. It is dangerous to believe in it. It does not necessarily mean you have used up all your energy. This fatigue may actually be due to hopelessness, lack of goal orientation, dissatisfaction, frustration, or boredom, and it can cause you to make a fatal error.

The habit of training your mind to ignore fatigue when necessary also goes for injuries, pain, hunger, and needs to which you have always felt you must respond. Actually, pain, as hospital attendants will tell you, is something an individual often doesn't feel in moments of great stress. For example, men with open, sucking chest wounds have stuffed them with handkerchiefs or torn shirts and kept going. Men have broken their backs when they bailed out or hit the ground. After regaining consciousness, they have rolled around for a stick or board, strapped it to them in a fashion, and moved on. Many things are possible to those with will and determination.

Keep Busy. Because man is a social creature and his natural habitat is the company of his fellows, boredom and loneliness are two of the toughest enemies of survival. If you're injured and immobilized, your best protection will be enough

mental composure to find some way to pass the time like this survivor did:

"Not knowing what to do, I decided to kill all the bugs. There were a lot of spiders, the big ones that do not hurt a human, so I killed the flies and gave them to the spiders to eat."

To occupy your mind, you may welcome any diversion, like this injured man who could not move did:

"While waiting for rescue, I began eating the grass around me. My only company was insects. They kept me awake by crawling over me. They didn't annoy me, because it gave me something to do to watch them."

Even when you're in relatively good shape, being alone and bored can really get you down. Watch for the signs. Keep your mind active and on survival. You can give yourself things to do that not only fulfill survival needs but release tension, like this:

"I was getting chilled now, so I bailed out the dinghy to keep warm. This also kept my mind occupied and helped me to keep calm, so I refilled the dinghy and bailed it out several times."

Remain Flexible. In order to survive, mental strength may be more important than physical strength. The ultimate in mental discipline may be required. You should realize that one can rise above the environment; man is an adaptive animal, and though he is a product of his environment and may be subjected to and destroyed by a strange one, he must constantly attempt to work within it, to mold it, and to rise above it.

To adapt to a unique situation requires an ability to respond in ways which may be new to you. Obviously, you could not learn everything there is to know about survival in the short period of time allotted during your initial training. Even though the foundation has been laid, you may be required someday to use that training in a new and unique situation calling for modifications and additions to knowledge gained. Part of flexibility is creativity. You may be called upon to react in an imaginative fashion. Gathering drinking water or capturing food may necessitate developing new and imaginative devices. An inflexible person will constantly focus on previous learning situations only and not be able to adopt modifications and create new solutions. To be flexible also means to have an open mind. Experiment, try alternatives. Don't get locked into doing things only one way.

Maintain a Positive Attitude. Expectations often influence our behavior. A self-fulfilling prophecy is almost certainly generated as a result of negative attitudes. We are more likely to fail in any endeavor if we feel incapable of achieving our desired goal. To be sure, we must be realistic in an assessment of our abilities; still, consistent expression of negative attitudes will eventually lead to a reduction in motivation and increase the likelihood of failure.

In conclusion, I'd like to point out that as important as the above factors are in your attempt to survive, none is as important as your own will to survive. Regardless of where you are and how miserable your circumstances, make up your mind that you will live through it. Men who should have been dead simply refused to die. Their secret? They had this one idea, and they kept it despite everything: **"I am going to live!"** ◄

A night to *REMEMBER*

By LCDR Russ Davis
VAQ-133

SOMETHING unexpected happened during a night cat shot off our carrier, south of India.

My pilot, along with another NFO and I manned up our *Prowler* for what was supposed to be a routine (even boring) radar calibration exercise or ship's service hop. Turnup as well as taxi to Cat 4 was uneventful, except our preflight and man-up were delayed 10 minutes while we waited for our trusty "war chariot" to rise, on an elevator, from the hangar level.

Once on the cat, all takeoff checks were completed in accordance with NATOPS, tension was taken on our *Prowler*, and the pilot smoothly went to full power. *That's when it happened.*

At this point, in tension, at full power on both engines, the catapult grip was rotated and grasped by my pilot. (As in most carrier aircraft, there is a catapult grip specifically designed to ensure the throttles can be physically held at full power, and in the EA-6B, it also provides nose gear strut hardening for catapult launch, to ensure proper aircraft attitude.) He next fully expected to see the strut lock light on our master caution panel go out, confirming that our nose strut was, in fact, hard. This was not to be the case tonight, however. Although all other engine performance and aircraft instruments had checked normal during our full power runup on the cat, the strut lock light stayed on after the pilot had rotated and grasped the catapult grip.

We were now almost immediately put in an *extremis* situation; that is, sitting on a cat which could be fired at any second with an aircraft not fully ready for launch. Incredibly enough, at this point, the pilot released the throttles and reactivated the catapult grip a couple of times, attempting to extinguish the strut lock light. Somehow, during this trouble-shooting process, he unknowingly turned on the aircraft's exterior lights, indicating we were fully ready for launch. This, of course, was not the case at all. During this interval (2 or 3 seconds at most), with none of us fully realizing our potentially hazardous situation, the pilot called out on UHF, "Suspend Cat 4, suspend Cat 4." This call was followed by a seemingly endless period of again, no more than 2 to 3 seconds, when . . . BOOM! . . . the cat fired, and we were headed down the rails, whether we liked it or not.

Fortunately, this story does have a happy ending. Even though the pilot was not physically holding the throttles when the cat fired, one throttle did in fact come back 2 to 3 inches, and our *Prowler* probably launched with a soft nose strut, our pilot was able to instantaneously find and positively slam the throttles forward during the cat stroke. Therefore, we were able to make it safely airborne, narrowly avoiding disaster. To say the least, all of us in that aircraft were visibly shaken by this unforeseen chain of events and felt very fortunate to be alive. Thank goodness our pilot had set the friction knob and instinctively reacted correctly during this crisis.

I guess we once again proved that the time-honored aviation axiom, "many hours of sheer boredom interrupted by seconds of stark terror," is still just as valid today as it has always been. Moreover, in the future, I know that my entire crew and I will be much better prepared for, and even plan on, the unexpected happening, at precisely the wrong time. Inattentiveness, even for a few seconds, has no place in the cockpit or on the flight deck, so keep that alertness percolating! ◄

After

IF you are typical of some naval aviators, you may treat emergency procedures as something to be studied prior to an AOM or NATOPS exam. You may even go one step further and agree that memorizing immediate action emergency procedures is important, and that all aircrews should possess a good knowledge of correct procedures. I agree that immediate action emergency procedures should be memorized, and I consider them a very important part of every aviator's professional knowledge. Still, there are some problems with this. People tend to get bogged down memorizing procedures, and they don't spend enough time really thinking out the situations. Immediate emergency procedures should be used as a guide, as a place to start when things start falling apart. But when those procedures are completed, your emergency is most likely *just beginning*.

Chances are that sometime during your flying career you've had to actually employ emergency procedures. Odds are that you also became aware of the difficulties of handling the situation *after* you had completed the emergency procedures. How do you avoid being unprepared for an emergency if simply memorizing emergency procedures is not enough? I propose that you develop scenarios for emergencies and then practice, in detail, exactly what you would do, *before* you actually experience the emergency airborne. These scenarios can be as difficult or as simple as you desire to make them. You should try to think up as many different ones as you can. Finding time to do this is no real problem. I do it while driving back and forth to work, during a few spare minutes of the day, or while just relaxing at home. In order to make the scenario realistic, you must consider the following as a minimum.

Weather
Fuel onboard
Distance from homeplate
Distance to divert fields
Type mission
Day or night
Altitude and airspeed

Let me show you an example of one of my scenarios and give you a better idea of what I'm talking about. The procedures belong to the F-14, but the principles remain the same for all aircraft.

I'm on the second VID of an ACM mission against two F-15s from an Air Force base about 15 miles north of Homeplate. My RIO is a replacement RIO with about 35 hours in the aircraft. I have 10,000 pounds of fuel remaining, and all aircraft systems are working normally. There is a solid overcast from 4 to 5,000 feet. It is clear above and below the overcast. We are working between 70 and 100 miles southeast of Homeplate with a small civilian airfield about 35 miles to the west.

The RIO gets two contacts. With a "tally" on both, we manage to maneuver to an offensive position on the trail F-15. As we press the trail *Eagle*, he pulls up, nose high, through 35,000 feet. I pull up for the shot, and as I'm passing 30,000 feet, I notice a left FIRE warning light staring me in the face. I immediately knock off the fight and point my nose toward home. I bring both throttles to military (to avoid any asymmetrical thrust at high altitude/AOA), and then bring the left throttle to IDLE. The air source switch is then turned off, but the FIRE light remains on. I pull the left fuel shutoff handle, bring the left throttle back to OFF, and start a decelerating climb. As my airspeed reaches 200 knots, I push the fire extinguisher button. Emergency procedures are

the fire's gone out

By LT Mike Bowers
VF-101

complete, but the emergency is far from over.

Here are some of the questions that will have to be answered in the next few minutes. Any indecision or wrong action taken could possibly result in disaster. The time has come to earn my flight pay.

I'm 85 miles from Homeplate. Should I press on home or head for the 4,500-foot civilian runway?

Does the civilian field have UHF communications? Fire-fighting equipment? Populated areas surrounding it?

Am I really on fire? How can I find out? Should I have one of the *Eagle* drivers join on me and check for fire? If so, should I wait for him to join on me, or should I let him catch me on the way home? What engine instruments will indicate a fire? What can the RIO do to confirm a fire?

If I decide to press on home, at what speed do I go? Air source off restricts me to 300 KIAS/.8 IMN. Should I turn air source back on? Should I disregard the restriction (with or without confirmation of a fire)? Will faster airspeeds aggravate a fire that might have stayed dormant at a lower airspeed? How can I avoid structural damage to the aircraft with air source off and airspeeds above 300 knots?

If I am going home, should I declare an emergency? Should I take an arrested landing? Should I land on the closest runway heading (possible downwind landing) or circle around the duty runway? Should my flightpath be over populated areas? Do I want the crash crew on the scene?

With air source off, will I lose cooling to my IFR instruments? If so, do I want to descend right away to avoid a single-engine, partial-panel penetration? Do I want to stay at altitude to optimize a possible ejection?

Do I want to dump fuel? Will it fuel a possible fire? Will it enhance my single-engine performance and make the arrestment safer?

Do I want to make a full-flap or no-flap landing? What is the maximum arrested landing weight and airspeed? Should I lower my gear early to avoid fire damage to my combined hydraulic lines?

How long do I intend to stay with this jet if I am really on fire? Is there any noticeable warning before control rods fail due to heat? Is there any better time for a quick review of ejection procedures? Should I be stowing loose gear and tightening my lapbelt?

Once on deck, who is going to open the canopy? Will kneeling the aircraft make egress easier? If I only have a FIRE warning light, am I going to shut down in the gear, on the runway, taxiway, or am I going to taxi back to the line?

As you can see, there are quite a few questions you are going to have to answer while nursing your sick plane home. If you've never thought about these questions before the real thing occurs, the answers may not come that easily. I'm sure you can think of many other questions I haven't listed. As you can see, your immediate action emergency procedures will help, but they will also leave you far short of what you really need to know.

This is just one of hundreds of scenarios you can develop. It becomes more interesting when more than one person joins in. Everyone has opinions on just how to handle different situations, and that's good, because you can learn from other people's experiences. The best person to discuss scenarios with is the person you fly with on a regular basis – your NFO, pilot, wingman, etc.

For the sake of space, I've only included one scenario, but here are a few more topics from which you might develop additional dramas.

Total electrical failure (night, at the ship)
Loss of canopy in flight
Birdstrike (pilot injured, aircraft damaged)
Hydraulic failures
Control problems (jammed controls, runaway throttles, hard-over rudders)
NORDO in combination with another emergency
Ejection over land or water
Massive fuel leak
Abort at high speeds with and without arresting gear

These nine suggestions are just a start. I encourage you to do some serious preparations for emergency situations. You'll find that when the real thing happens, your scenario practice will pay off with quicker response and better decisions.

Remember, the life you save **will be your own.** ◄

Anymouse

A Common Disease

A NUMBER of months ago I was involved in a real "delta sierra" and, happily, came out smelling like a rose. However, the consequence of what could have happened has become most evident.

I was tasked to carry a senior officer from an airfield on a southern Mediterranean peninsula to a remote airfield in the northern part of the same country in a trusty C-1 aircraft. The destination was NOTAMed to be closed at sundown, and due to delays before takeoff, our arrival at the destination was calculated to be at or shortly before sundown. What I did not count on were the delays involving two changes of route which set us back approximately 30 minutes.

My passenger was naturally very anxious to make it to the destination, thus avoiding an RON at the alternate and a long 4-hour trip by bus the next day. At no time did he put any pressure on me to go ahead and attempt a landing at the closed field. The decision to go ahead was entirely my own. What I can blame the go-ahead decision on was my own pride and "I can hack it" attitude. The closer I got, and the darker it became, the greater the challenge. About this time, Peninsula Control started harrassing me about my destination being closed and the fact that I could not land. I was just as insistent about landing due to "operational necessity." Finally, out of desperation, Peninsula Control made me say at least three times (to ensure it was on the tape, I'm sure) that I, the pilot, would take full responsibility.

The geographical description of our destination is a story in itself. The airport elevation is close to sea level, and it sits in a basin surrounded by mountains ranging from 1,500 to 6,000 feet in altitude, all within 12 miles of the field. It is obvious that even in daylight a landing there could be an adventure.

What was I going to do? I was going to land at this place at night, being completely unfamiliar with the terrain, with no runway lights and no tower control!

At this time I am strongly tempted to crinkle up this report and forget it, because who wants to show their stupidity? But no, there are others out there who have pulled tricks just like this, and there are those who are going to do it. Who knows, this "mouse" may save a life.

When we arrived over the field, the sun had set 30 minutes before. The mountains to the west were still well defined, but the 1500-foot obstructions to the south, under our base leg, were hard to see. Also, we had to have all eyes peeled downward before we finally found the field. I let down to 2,000 feet directly

The purpose of Anymouse (anonymous) Reports is to help prevent or overcome dangerous situations. They are submitted by Naval and Marine Corps aviation personnel who have had hazardous or unsafe aviation experiences. These reports need not be signed. Self-mailing forms for writing Anymouse Reports are available in readyrooms and line shacks. All reports are considered for appropriate action.

REPORT AN INCIDENT
PREVENT AN ACCIDENT

over the airport and set up for a left downwind for the north runway (based on our winds at altitude, of course). I maintained 2,000 feet all the way around our base leg to stay clear of the hills, which I hoped were no higher than 1,500 feet. Then, on short final, I pushed the nose over in a penetration type maneuver to get down to the runway. When I was within 500 feet of the field elevation, the taxi light was turned on, which of course blotted out what little I could see of the runway. I kept it coming down, and in a few seconds, the light picked up the hash marks of the approach end. An uneventful landing ensued.

I was pretty proud of my accomplishment, and the passenger was most appreciative (whether to have arrived, or to be alive, I'm not sure). It wasn't until later, when I had time to think about what I had done, that the possible consequences of my short-witted and irrational decision started to surface. Today I am most thankful to be alive and not to be responsible for the deaths of my crew and passenger. The moral is: don't let the disease of "can-do-itis" kill you. "Can-do" is profitable only when good headwork accompanies it. Never let the two be separated.

Smellinglikearosemouse

Not Quite Right!

PRIOR to a night CV launch, a *Tomcat* pilot lowered his flaps and observed the flap indicator showing "almost" full down. A troubleshooter signalled for the flaps to be cycled, and the pilot complied. Again the flap indicator showed slightly less than fully extended, but the pilot was unable to physically move the flap handle further aft. This time, the final checker gave a thumbs-up, and the launch proceeded uneventfully. The pilot later admitted that he felt something was wrong, but that in his judgment, no serious problem existed.

When the flaps were lowered prior to recovery, the same discrepancy was noted. Following a normal CV landing, the pilot downed the aircraft for the flaps gripe.

Inspection revealed a 2-inch broken section of the caution light panel cover wedged in the throttle quadrant below the flap handle. Apparently, the cockpit FOD was the result of some maintenance action performed several days earlier. Had the FOD wedged in the throttles themselves or in the flight controls, the outcome could have been dramatically different. The feeling that something is *not quite right* can often be a valid indication of a potential hazard.

FODmouse

Helo Load Jettisoned

WHAT do you think of an experienced TH-1L instructor pilot who intentionally jettisons a practice external load simply because he has never pickled a load before? After making a statement to that effect at an AOM, he even briefed his crew that he was going to do it. He was established at 500 feet in a hover and pickled off the concrete block. Besides "deep sixing" the block, he destroyed a perfectly good Mk-105 pendant.

It seems to me that naval aviation has no place for an experienced, supposedly "mature" pilot who performs a stupid, irresponsible act such as this one.

Iratemouse

We agree with you. Intentional jettisonings such as this one require a report. Thus far, NAVSAFECEN has not received any report. It's hard to believe that this could be covered up in such a manner that the ops officer and CO were not aware of the details. Instructors who pull stunts like this we don't need!

Leadership by Example

OUR A-6 squadron is currently deployed aboard a carrier and recently lost an aircraft in a preventable mishap (no injuries, fortunately). From the AMB summary, one of the NATOPS violations observed involved failure of the crew to use ICS HOT MIKE during the catapult launch. In his endorsement, the CAG reiterated NATOPS by directing that HOT MIKE will be used without fail during launches. Approximately 5 weeks after this mishap, the same CAG manned an aircraft to go flying and discovered that the ICS was malfunctioning. Crewmembers were unable to communicate except by broadcasting on the UHF radio. The CAG elected to launch anyway by using one radio tuned to the mission frequency and the second radio tuned to a seldom used frequency (in this case, SAR SECONDARY), where it was used during the entire hop in lieu of normal ICS. This plainly violated squadron SOP by launching without an operable ICS and violated NATOPS by not having HOT MIKE during a catapult launch. Communications security was also disregarded in a sensitive area of the world.

As a JO, I expect positive and professional leadership from superiors by example of sound policy backed by sound actions. Many of us JOs are disillusioned by the perception that the *heavies* don't always practice what they preach, which this incident serves to reinforce.

JOmouse

LTJG Bowie TEWBES:

IF you are a SAR helicopter pilot or have ever been involved in a SAR effort, you might ask yourself the following questions.

- *How large does a man appear in the water?*
- *How much of him is exposed above the surface?*
- *How easily will I be able to find him if he is incapacitated, i.e., cannot signal with flares or lights?*

During a recent deployment, HS-15 successfully completed six rescues at sea. The rescued personnel included pilots who had ejected from their aircraft and sailors who, for various reasons, had gone over the side. In debriefing the crews who had made these rescues, a common discovery was that a *man in the water looked a lot smaller than what the pilots and SAR crewmen expected.* The survivors were indeed fortunate to have had their positions well marked upon water entry and to have not been physically incapacitated. Additionally, all except one had the good sense to require rescue during daylight hours. Without a doubt, these advantages increased their rescue chances, yet the victims still appeared much smaller than anticipated, even with the helo at hover altitude.

Our aircrewmen were properly concerned that, even when given precise directions to the SAR datum, a SAR helo could take so long to locate a person in the water that a preventable death might result. In order to better train our pilots and SAR crewmen to locate victims as rapidly as possible, a device was developed that simulates someone in the water. Affectionately called "LTJG Bowie TEWBES," the device is essentially what its name implies – an empty sonobuoy shipping tube. Made with some shroudline, ballast, and an old surveyed helmet, Bowie floats in the water, exposing only as much of himself as a real person would if that real person were unable to signal or otherwise assist a SAR helo in locating him. Only the helmet is visible above the surface. A downed pilot, unconscious in his LPA, would present a comparable target.

Through use of this device, our crews have accomplished invaluable SAR training. Day and night visual search patterns with and without a strobe light have been evaluated along with the effect of sea state on target detection. Some crews were considerably humbled upon discovering that a "piece of cake" search scenario was, in fact, much more difficult than was previously imagined. An added benefit is that Bowie can be used for more than just target presentation, since the large loop of plastic tubing (shown in the photograph) enables Bowie to be lowered and raised by a grappling hook attached to the rescue cable. This provides considerably more realistic

LTJG Bowie TEWBES was fabricated by AWC John Krumland, shown here with the training device. Most of the sonobuoy tube is submerged when in the ocean, thus increasing its resistance to being blown about by the helo's rotor wash and enabling it to display hydrodynamic characteristics similar to those of a human being.

SAR Victim

By LCDR Steve Hawkins
HS-15

Photos by DPSN Hamilton, USS INDEPENDENCE (CV 62).

hover and hoisting practice for SAR aircrewmen. Moreover, if Bowie is lost, he is easily replaceable, as he costs virtually nothing.

Some may say that LTJG TEWBES has a "plastic" personality and is "hollow" as an individual. But to the aircrews of HS-15, he is a welcome addition to the ready-room, helping us perfect our secondary SAR mission capabilities.

NOTE: *To our "go faster" comrades who persist in favoring "Sierra Hotel" helmet paint jobs, a trip with Bowie at night may cause you to reconsider looking like a NASCAR race driver in favor of using more reflective tape.* ◄

"LTJG TEWBES" as seen from 40-foot hover, about to be hoisted into an SH-3H.

Can you find the survivor? This photo was taken with a 50mm lens at an altitude of 110 feet, approximately 100 yards from the target floating in a state 1 sea.

Dilbert at t

It looked extremely rocky for the Intruder bounce that day,
The score stood 1 for 4 with but two comers left to play.
For ZERO FOUR had gone to phase and DOUBLE ZIP the same;
The mighty Intruder air force ops were looking kinda lame.

The contingency crew got up to go, leaving there the rest
With the hope that "springs eternal within the human breast,"
They thought, "With just one hot seat, we'll get our chance at bat."
They'd all bet even money now, with a hot seat in their hat.

But TEN preceded hot seat, and likewise, so did EIGHT.
The former was a hangar queen, the latter was a crate.
Then EIGHT came up for manning, and wonderment of all,
There was good old TEN again, bouncing on the ball.

The fourth crew heaved a giant sigh, and it was even said,
"Two planes are up, and Dilbert's walked, we're gonna make the sked!"
They watched old Dilbert preflight, with confidence in their eyes,
"Two engines and two wings are all he'll need to fly."

Dilbert kicked the tires and lit the fires, among a multitude of sins.
He even called for taxi 'fore the B/N pulled his pins.
"Get the bounce, and we'll survive this muck,"
But it got worse, with another turn of luck.

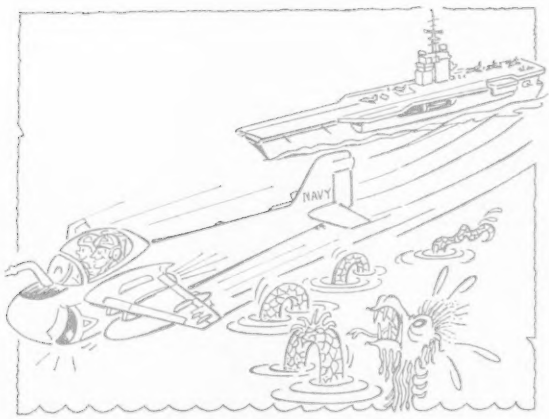
'Cause ZERO ONE's hydraulics failed, the crew made no mistakes.
TEN was not so fortunate – the pilot smoked the brakes.
"These rookies," Dilbert thought, "they're still wet behind the ears,
"I'll save the bounce," he called, just to allay the Boss's fears.

the bounce

By LT C. T. Butler
VA-95

On the taxi to the cat, Dilbert still remained too cool,
He ignored the size of the needles when he read the aircraft's fuel –
"Two grand plus 6 will total 8," were his checklist voice refrains.
What neither flier noticed was, **the 2 was in the mains!**

Dilbert took the cat with a bunch of caution lights,
"They're unimportant," quoth he, to soothe the B/N's frights.
Despite Dilbert's confidence, the B/N was not so sure,
Still, he trusted Dilbert to get him through this tour.

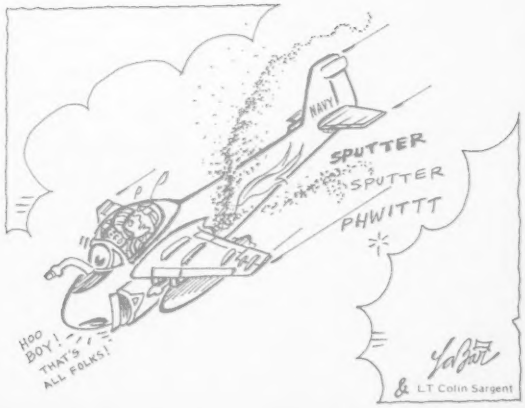


Now from his great Intruder, a mighty roar sends he,
It thundered 'round the tower, it resounded o'er the sea,
And in the squadron readyroom, the hot seats heaved a sigh,
For Dilbert, mighty Dilbert, had leapt into the sky.

There was ease in Dilbert's hand, as he deftly moved the stick,
On his first two passes, he didn't miss a trick.
He doublechecked the gauges, the wing fuel had transferred,
But Dilbert had misread it, the very notion was absurd –
For the workings of the airframe and the NATOPS it defied,
To transfer wings with gear down, you must use OVERRIDE!

The LOW FUEL light popped on; "Tis nothing," Dilbert knows,
Still, it distracted him during the next two touch-and-gos.
Now Paddles pimped him rudely: Dilbert's patience nearly popped,
He pounded, with cruel vengeance, the throttles to the stops.

Now Dilbert was in the groove, as he saw a settling ball,
He put the throttles to military, to avoid the power call.
Oh, somewhere there are s--- hot breaks, and somewhere Bosses shout,
But there's no joy in Intruderland, dumb old Dilbert had flamed out.



TERF is tough

By Russ Forbush
APPROACH Writer

BACK in the days before safety became an integral part of the naval aviation program, it wasn't uncommon for some of us flyboys (yep, me too) to engage in a little frivolous activity called "hedgehopping" (or flat-hatting). While it wasn't actually condoned by the heavies, the emphasis on safety was low key. Few perpetrators were brought to task for their derring-do. Of course, getting caught stirring up a herd of cattle, driving 10,000 turkeys bananas, or buzzing a railroad train could win you a few days in hack. Things have changed a lot since then, so those of you today who feel the urge to dust off the trees had better be prepared for the worst if you're nabbed in the act.

How's that for a sneaky lead-in to a discussion of a legal form of hedgehopping which has become an important tactical weapon within the Navy/Marine Corps helicopter community? It's called *terrain flight* (TERF), and its implementation resulted from a dramatic change in providing survivability protection for aircrews and aircraft. During the Vietnam conflict, survival chances were significantly improved, in most cases, when operating helos at altitudes above 1,500 feet AGL. Since then, the enemy "threat" environment has changed, and this has brought about the introduction of terrain flight to counter the threat and provide inflight protection for the aircrews. This is accomplished by tactically employing helicopters in such a manner that they use terrain, vegetation, and man-made objects to degrade the enemy's ability to visually, optically, or electronically detect or track the aircraft.

TERF is a type of tactical flight composed of three basic techniques: low-level, contour, and nap-of-the-earth (NOE). These are defined below.

Low-level Flight. Flown at a selected altitude at which detection or observation of an aircraft is avoided or minimized. The route is preselected and conforms generally to a straight line, with the helo maintaining a constant airspeed and altitude (MSL).

Contour Flight. Flown at a low altitude conforming generally with and in proximity to the contours of the earth. It is characterized by varying airspeed and altitude as vegetation and obstacles dictate.

Nap-of-the-earth Flight. Flown as close to the earth's surface as vegetation and obstacles allow. Airspeed and altitude are varied as influenced by the terrain, weather, ambient light, and enemy situation.

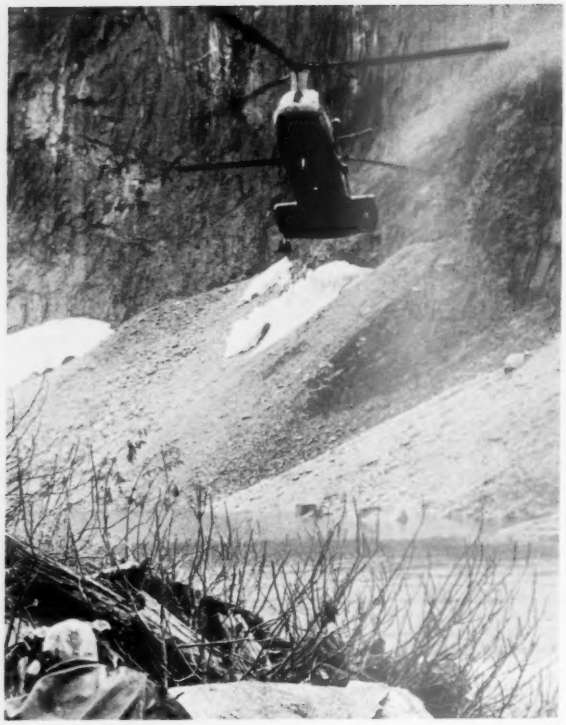
Terrain flight training is designed to prepare selected helicopter aircrews to conduct flight operations in a high-threat environment, at altitudes below 200 feet AGL. Participants include assault support helicopter aircrews (AH-1, UH-1, HH-1) and cargo/transport aircrews (CH-46, HH/CH-53). All aircrews receive training in terrain flight and navigation standardization, evasive maneuvers (EVM), night vision goggles (NVG), and assault support helicopter tactics. Additional training in weapons and tactics is provided to H-1 aircrews.

When conducting aviation operations in an *actual* high-threat environment, the following conditions can be expected:

- Units will operate as members of a combined arms team as a condition of survival.
- Units will be required to conduct both day and night missions and operate in adverse weather conditions.
- Enemy electronic warfare will be employed against aviation units.
- Units will often have to operate under radio silence.
- Attacks by enemy tactical fixed-wing aircraft and helicopters can be anticipated.
- Operations will be conducted in both conventional and unconventional environments.

The TERF training syllabus for each model helicopter prepares aircrews to operate their aircraft under the conditions described above. Scenarios for each phase of training provide a realistic environment for TERF operations. NATOPS requirements, however, cannot be breached while conducting TERF training.

The single most important technique associated with



TERF is crew coordination, especially during NOE operations flown at altitudes between 10-50 feet AGL. Teamwork between the pilot and copilot/navigator (may be a trained and qualified naval air observer if authorized by NATOPS) is a must if the mission is to be flown safely and effectively. The various duties and responsibilities of the pilot and copilot follow.

Pilot – The pilot at the controls of the helicopter has two primary responsibilities: controlling the aircraft and avoiding obstacles. He must keep his vision outside the cockpit and avoid distractions, especially those from within the aircraft which could hinder his external scan. He reports terrain and landmark information to the copilot to assist in navigation. Should an emergency occur, he retains control of the aircraft and executes those emergency procedures required (in accordance with the instructions set forth in the preflight briefing).

In order to carry out his responsibilities, the pilot must know his aircraft. He must be acutely aware of the dimensions of the helicopter, its performance capabilities/limitations, the reduced reaction time that may be involved, and the necessity for smooth and precise aircraft handling. (This is especially true when operating H-1 helos, since they are susceptible to mast bumping. See "Mast-Ectomy," MAR '81 *APPROACH.)*

Copilot/Navigator – The copilot or qualified observer is primarily responsible for accurate navigation. He must remain oriented at all times and inform the pilot of the direction and route to be flown and, when necessary, the appropriate airspeed adjustments required to arrive at the next air control point (ACP), checkpoint (CP), or barrier on time. He assists the pilot by monitoring cockpit instruments and the mechanical functions of the aircraft (e.g., operating switches and tuning radios). He also oversees the performance of the crew chief and gunner, if assigned. If an aircraft/system emergency should occur, he executes those prebriefed procedures assigned to him. These should include, as a minimum, reading and executing the appropriate NATOPS emergency procedures and the landing checklists, if required. If necessary, the navigator could also be tasked with making any emergency radio transmissions.

The copilot/navigator must be proficient in map reading, terrain interpretation, and terrain/map correlation. He must be able to visualize, from the map, how the terrain around him should appear, and then look at the terrain, identify his position, and locate that position on the map. This is particularly difficult when using the NOE technique.

Clear communications between the pilot and navigator are essential during terrain flight. The navigator furnishes the pilot with the course information, while the pilot keeps the navigator aware of approaching terrain features. Standardized terms are a must, and these must be fully understood by all crewmembers. Heading information should be provided so the pilot does not have to focus his attention inside the cockpit. "Turn left, 10 o'clock, fly toward the lone pine" is an example of a concise heading change given to the pilot. Another example is, "You're maintaining 75 knots – reduce it slightly." By not giving the pilot a precise airspeed to fly, the navigator provides the pilot the information necessary to reduce airspeed without looking at the airspeed indicator.

Some of the more important safety factors affecting terrain flight are discussed below.

Crew comfort level. In initial TERF training, instructor pilots must be aware of the crew's comfort level (lowest altitude at which a crewmember can professionally function without undue apprehension). As a crewmember gains more experience and expertise in terrain flight, his comfort level should increase for flights lower in altitude.

Inflight emergency procedures. Crewmember duties and responsibilities concerning emergency procedures must be assigned and thoroughly explained by the pilot in command during the preflight briefing. Low-level flight normally reduces reaction time, and such procedures as reading the NATOPS PCL may not be possible. This makes it imperative that each crewmember is thoroughly cognizant of his duties during

an immediate-action emergency. Crews can sharpen their skills in this respect by conducting regular "dry runs" through emergency procedures.

Power checks. Because TERF is flown close to terrain and vegetation, possibly in a downwind hover out-of-ground-effect (HOGE) condition, the pilot must be fully aware of his aircraft's power requirements. He must be prepared to conduct HOGE at mission gross weight at any location along the intended flightpath. This is crucial when operating at high gross weights, at high terrain elevations, or under difficult ambient conditions. The pilot conducts a power control check prior to flight to determine that engine power available equals or exceeds that required to permit the safe execution of downwind HOGE in accordance with NATOPS for the prevailing ambient conditions. Additionally, the pilot conducts four checks to confirm that necessary flight control authority exists about all axes at flight route elevations. They are: a "topping" check en route to demonstrate that maximum torque available matches or exceeds that predicted for the specified ambient conditions; a slow, 360-degree pedal turn in positive ground-effect hover (2-10 feet) to provide hard torque requirements for hovering and to validate controllability; a 90-degree left or right turn at midaltitude ground-effect hover (25-40 feet); and a slow, 360-degree pedal turn at HOGE altitude (40-100 feet). The 360-degree turns also provide torque indications for downwind hover requirements, and the check profile allows for barometric altimeter adjustment to closely match actual terrain elevations.

Area hazard map. As many potential hazards as possible must be identified prior to flight. In addition to manmade hazards, consideration must be given to areas where natural hazards such as wind shears, downdrafts, or "burbles" may exist. Most hazards can be predicted through the use of maps and aerial photos and, once confirmed, should be identified on a "master" map of the area. This map can be used to update aircrew charts and can itself be updated as additional hazards are discovered.

Wire, tree, and bird strikes. During the period from 1 March 1971 to 1 March 1981, 163 mishaps involving collision with wires, trees, and birds were reported to the Naval Safety Center. Twenty-one aircrew personnel were killed with 23 aircraft destroyed. There were 21 wire strikes, resulting in 6 fatalities and 3 destroyed aircraft. Still, of the 23 destroyed aircraft, 5 involved material malfunction, and 1 mishap was listed as undetermined.

Bird strikes did not figure in any of the fatalities or destroyed aircraft. The great majority of mishaps listed little or no damage. Bird strikes have not posed much of a problem thus far, but fliers must wear their helmet visors down at all times to guard against injury should a bird strike occur.

The only means of coping with wires and vegetation, such as trees, is to see and avoid them. Because wires often cannot be seen until the last moment, the aviator must learn the visual clues of wire location. Examples are swaths through the vegetation, suspension poles, roads, towers, and buildings. Helicopters are particularly vulnerable to tree strikes at NOE altitudes. Again, the see-and-avoid technique is the best strike deterrent.

Weather. During TERF training, flying in adverse weather conditions is prohibited. When operating in a high-threat environment, however, flight can be expected, since adverse weather will deny the enemy many of his air defense weapons with respect to visual and radar acquisition and tracking.

Human factors. The precision and concentration demanded to accomplish terrain flight can be somewhat fatiguing. Fatigue is a difficult problem, because it cannot be measured and often goes undetected by the individual or his supervisor. It can, however, be reduced by minimizing the physical, emotional, and self-imposed stresses which produce fatigue. These include prolonged flight, temperature extremes (especially heat), colds, flicker vertigo, poor eating habits, excess weight, alcohol and tobacco indulgence, personal problems, and physical exertion. The most common signs of fatigue are deterioration of aviator performance and judgment, poor coordination, object fixation, daydreaming, and slowed reaction time. Some ways to minimize fatigue in both training and combat environments include establishing flight time limitations and crew rest periods, ensuring routine, supervised physical fitness proficiency, and training to develop and maintain proficiency.

The 10 most common errors associated with terrain flight follow.

- Inadequate preflight planning
- Overestimation of visibility range
- Failure to preselect barrier features
- Inadequate preparation for profile shifts
- Ignoring slope gradients, terrain elevations, and axes of advance
- Ignoring time-distance aids
- Preoccupation with close-in terrain features
- Failure to maintain continuous orientation
- Failure to positively identify checkpoints
- Overdependence on the flight leader

Look out for that tree! Terrain flight was developed to provide maximum survivability for aircrews and a tactical advantage when operating in a high-threat environment. Since it is expected that the opposition will endeavor to eliminate any "holes" in their envelope, TERF tactics can be expected to change as necessary to meet the challenge and to conserve assets safely. ◄

Setting the spirits straight

By Russ Forbush
APPROACH Writer

SOME fliers don't seem to understand Navy regulations governing the consumption of alcohol during the hours before takeoff. We'll get to those regulations later, but first, we'd like to direct your attention to the mishap brief which follows.

A helicopter pilot and crewman were preparing to depart NAS Coastal on the first leg of a ferry flight. The ceiling at the time was 700 to 1,500 feet AGL, cloud tops were at 4,000 feet, and visibility was 5 miles or more in haze. The weather forecaster asked the pilot if he would like a 175-1 filed, but the pilot stated that conditions were VFR for his helicopter and that a verbal brief would suffice. Following preflight, manup, start, and rotor engagement, the pilot contacted NAS Coastal Tower and requested a Special VFR clearance. The request was granted.

The tower then cleared the helo to air taxi to the approach end of the duty runway. A few minutes later (1245 local time), the aircraft was cleared for takeoff on a northerly heading, and the pilot was directed to contact NAS Coastal Departure Control. The aircraft was to remain below 500 feet until clear of the control zone. Departure Control passed a couple of heading changes to the pilot to avoid inbound traffic. The helo altered course accordingly, flying 200 to 300 feet over the water. Suddenly, the helo entered an unobserved fog bank. The pilot turned the aircraft to the right in an attempt to regain unobstructed visual flight, but in so doing, he became spatially disoriented. Since he was unable to establish an effective instrument scan, airspeed and altitude decreased, and finally, the tail rotor contacted the water. After momentarily bouncing back into the air, the aircraft settled, slightly nose low and right wing down, into the water.

The impact broke open a section of the right cockpit, and with the right window open, the aircraft quickly filled with water. By the time the crew egressed the helo, it was completely submerged. Neither crewman was wearing his SV-2 survival vest (a violation of OPNAVINST 3710.7K, since the aircraft was operating near coastal water), but both were able to stay afloat until they were rescued by a commercial charter boat about 30 minutes later. Only minor injuries were suffered by each man.

After returning to shore, the pilot and crewman were transported to a nearby NRMC for treatment. At 1530 local time on the day of the mishap, a blood specimen from the pilot yielded a blood alcohol level of 0.015 percent.

The investigation revealed the pilot had consumed several drinks during the 24-hour period immediately preceding the mishap. He stated, however, that he'd complied with the aviation safety dictum of "12 hours from bottle to throttle." The safety dictum is OPNAVINST 3710.7K. Had the pilot been fully cognizant of its contents, he'd have known that this is what it really says about using alcohol:

"Consumption of any type of alcohol is prohibited within 12 hours of *flight planning*. However, mere adherence to the letter of this rule does not guarantee a crewmember will be free from the effects of alcohol after a period of 12 hours. Heavy drinking can cause a hangover effect persisting in excess of 48 hours and cause a marked decrease in thought process and physical performance. In addition to abstaining for 12 hours prior to flight planning, flightcrews shall ensure that they are free of hangover effect prior to flight. Detectable blood alcohol or symptomatic hangover are causes for grounding of flight personnel or for restriction of the activities of ground personnel."

As stated earlier, the mishap pilot had a blood alcohol level of 0.015 percent, at 1530 local time on the day of the accident. Taking into account the body's average rate of alcohol detoxification and excretion, his blood level at the time of flight would have been 0.075 percent. Twelve hours prior to the flight, the time of his last drink in a "best case" situation, his blood alcohol level would have been 0.255 percent. This equates to at least 12 drinks in a 180-pound man. The legal intoxication level in most states is 0.100 percent. Clearly, the mishap pilot's actions were outside both the letter and intent of OPNAVINST 3710.7K.

Small and variable levels of blood alcohol have been shown to impair judgment, coordination, fine motor skills, and sense of spatial orientation. The blood levels calculated to have been in the pilot's bloodstream during this accident were sufficient to have caused impairment in any or all of these spheres.

There are good and evil spirits. Alcoholic spirits can be one of the most evil of all if consumed to excess. The best way for fliers to set their spirits straight is to limit alcohol consumption to an amount which can be passed through the body before their next flight planning session. ◄

Airshow static displays

By LT Tim Sparks
VAQ-135

TWO of my squadron mates and I recently flew our EA-6B *Prowler* down to Lower Boondocks, USA, to give the public a firsthand look at naval aviation.

The first obstacle we faced was finding some information about our destination. We checked the IFR and VFR Enroute Supplements with no luck, so we went to base operations and dug around in the pubs until we stumbled onto the latest issue of the Airman's Information Manual (AIM). Bingo! Discovering ourselves on the right track, we continued our search. We found a low-altitude approach plate for the area and discovered that the field had an ADF approach. It had been a long time since the pilot had flown an ADF approach, but no sweat. One has only to dial in the proper frequency and use a stopwatch, right? Wrong! Upon closer examination, we found this approach required a low-frequency ADF, while our equipment was UHF. Needless to say, they didn't have precision radar available, either. Obviously, we needed VFR terminal weather to get to the airshow. Another interesting sidelight was that the runway was a little shorter than we were used to, and there was no fuel available. We therefore made our plans to land at the civilian airfield with a partial fuel load that would leave enough to get us to a nearby military field to refuel. This partial fuel load would also improve our takeoff capability for the short runway. Because our aircraft would be a little heavier on landing than normal, and because the runway was so short, we decided not to land if the runway was wet. Instead, we'd be prepared to Bingo to our alternate.

The next item on the preflight agenda was a starting unit. We contacted the airshow coordinator and explained our requirements. He assured us he would have one available. We doublechecked this "certainty" the day before our departure and were informed that the unit was on hand.

When it came time to file our DD-175, we weren't really sure how to file IFR to a field which had no instrument approaches we could use. Fortunately, one of the crew had just completed his annual instrument ground school. He informed us we had to file directly to the airport and have a *compatible* instrument approach.

With planning complete, we put wheels in the well and headed east. The cross-country flight was uneventful.

Our arrival at the destination airport was via random radar vectors to the VFR overhead. The visibility was poor (4 miles in smoke and haze). Our vectors consisted of "The field's at your 11 o'clock. When you see it, go for it." Go for it? How does one "break" at a civilian field? So, like all good Navy aircrews, we faked it. The approach and landing went pretty well. We taxied in, shut down at our static display spot, and began to "button up" the airplane. We installed all of the various plugs and covers required to prevent any miscellaneous trash from being stuffed into any of the different nooks and crannies of the airplane. This turned out to be very important, because there were a number of aircraft parked nearby that were not secured and had everything from kids to coke cans and popsicle sticks in the intakes and exhaust pipes. We pinned our seats, landing gear, and wing stores and secured the canopies. Finally, we taped shut the access door to the emergency canopy jettison handle. After we completed plugging and

taping, we ensured there would be acceptable security for the aircraft during the night and hit the beach.

Following a night of festivities and making new friends, we drew straws to see who would be standing by our airplane when the gates opened. We decided beforehand to have someone with the aircraft from the opening to the closing of the airshow. After answering a zillion questions about our airplane and overhearing remarks like, "I didn't know the Navy had any airplanes," the flying part of the show began. It was a real treat to watch some of the best fliers in the country, both military and civilian, wring out their machines. That was the part that really got us thinking, "I wish I could get a chance to show my stuff. They really haven't *seen* flying yet!" People would come up to us and ask if we could do those maneuvers in our airplane. Our chests would swell a little as we replied, "Sure, piece of cake." The seed was planted. We started thinking about a Sierra Hotel maneuver we might perform on our departure from Lower Boondocks. It would have to be something the locals would be talking about for many shows to come.

The airshow finally came to an end, and it was time to leave. We resisted the temptation to "let it all hang out" and departed the airfield in a very unspectacular and safe manner. Too many times we had read of people receiving flight violations for trying to impress spectators, or worse yet, doing something foolish enough to cause the loss of an aircraft or its crew.

The public really won't remember that Sierra Hotel departure if the airplane augers in. Those who understand military aviation will be much more impressed with a bull's-eye on the bombing range, a good "fox 2" on your Bogey, or an "OK 3-wire" at the ship.

The ideas and feelings I have discussed are in no way intended to discourage aircrews from participating in static displays or discourage superiors from letting aircrews attend. The intent of this article is to spread the lessons we learned, in hopes of making someone else's static display a little easier.

In August 1980, CNO issued a message (CNO 271158Z), giving detailed guidelines which added further direction to OPNAVINST 3710.7K concerning participation in static displays. I encourage all squadron operations officers to have a copy available for cross-country crews prior to their departure. The message provides excellent guidance and, if adhered to, will help prevent recurrences of many of the unpleasant incidents of the past. Airshows are fun. They are very rewarding for the individuals involved and for the Navy. They leave one with a sense of pride in his service and country. Next year, I'll remember to bring my suntan lotion. ◄

LT Roy Gordon (left); LT Joe Strange (right).

LT Roy Gordon
LT Joe Strange
VF-171 Det
Key West

AN F-4N crew was engaged in a 1 versus 1 ACM training flight against an A-4E. The crew prepared for a guns-defense, jinking, runout maneuver at 15,000 feet, 400 KIAS, with the A-4 in a port turn, and guns tracking at 1,500 feet.

The F-4, piloted by LT Roy "Flash" Gordon, commenced a -1.6G pushaway followed, 4 seconds later, by a +5.5G pull and starboard reversal. At this point, LT Gordon notified the RIO, LT Joe "Hermit" Strange, that the aircraft was continuing its right roll after the controls had been neutralized. Opposite stick was applied and had no effect.

Passing 9,000 feet, airspeed had quickly increased to mach 1.05 and was increasing as the nose fell farther below the horizon. Realizing the out-of-envelope ejection parameters, LT Strange kept LT Gordon informed of the *Phantom's* altitude and airspeed. Full opposite rudder and aft stick temporarily halted the rolls, but as the aircraft slowed to 300 KIAS, it again rolled to the right.

The decision was made to eject if the airspeed reached 375 KIAS and the aircraft was still out of control. Passing 360 KIAS, the aircraft again became controllable. No lateral trim and only limited left-of-center stick movement was available. A turn inbound was commenced as the SAR helo scrambled towards the area, 50 miles west of Key West.

The aircraft made several more uncommanded rolls en route to base. Eventually, LT Gordon slowed the aircraft enough to drop the landing gear and flaps. External examination by the A-4 revealed the port aileron cycling randomly from full up to full down, with no apparent inputs. Minimum control airspeed was determined to be 170 KIAS at one-half flaps. Any addition of power or an attempt to turn right was found to cause immediate right rolls.

LTs Gordon and Strange decided to attempt an approach using left turns only to an arrested landing. A flawless approach was flown to touchdown and engagement of the midfield gear.

Postflight investigation revealed that a bolt, which connects the stick controls to the aileron, had backed out of the port aileron control rod. The free-swinging control rod then induced random inputs to the aileron, still boosted by the 3,000 psi hydraulic system.

Through excellent airmanship and professional crew coordination, LTs Gordon and Strange saved their aircraft from almost certain destruction. They have received the Navy Achievement Medal for their handling of this "one in a million" emergency.

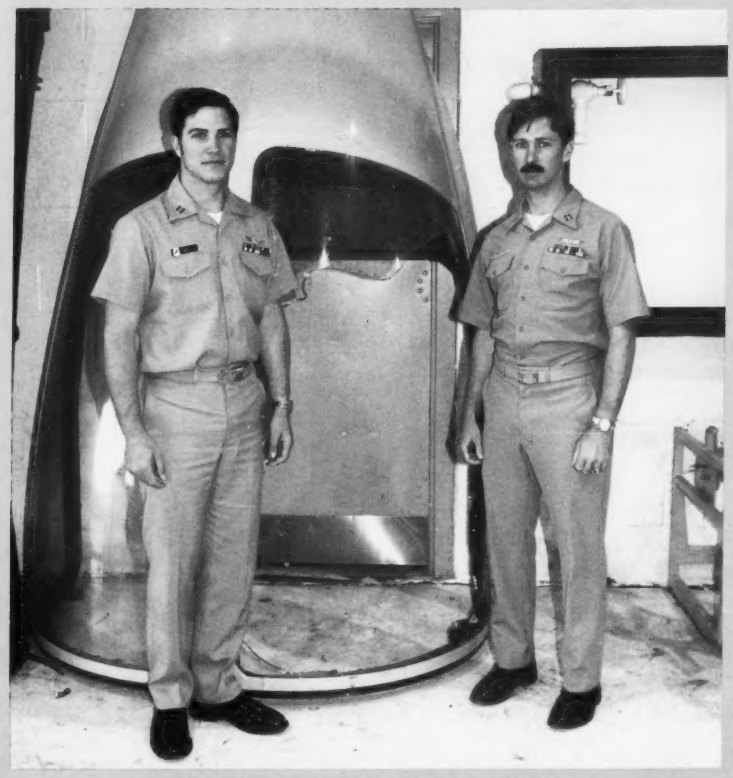
LT Gary Hentz
LT John Dolenti
VA-35

PUT yourself in the cockpit of an A-6 going 450 knots, and visualize impacting a large bird, head on, against the canopy! This happened to LT Gary Hentz and LT John Dolenti while they were flying a visual low-level navigation route during a Photo Reconnaissance Derby. They were maneuvering toward the seventh of a series of 13 targets when the canopy shattered on the pilot's side, forcing *Plexiglas* and bird debris into the cockpit. The impact pulled the pilot's upper ejection handle out 12 inches.

LT Hentz, the pilot, was momentarily dazed by an injury to his left shoulder, the noise, and the wind blast. He maintained control of the aircraft and started to climb while turning toward the nearest divert field. LT Dolenti, the B/N, sustained a deep cut on his forearm and lost all communications and oxygen flow when his personal services disconnect block was dislodged. He ignored his own predicament, lowered the pilot's seat, and attempted to "safe" the pilot's ejection seat handle, which was being pulled out by the wind blast.

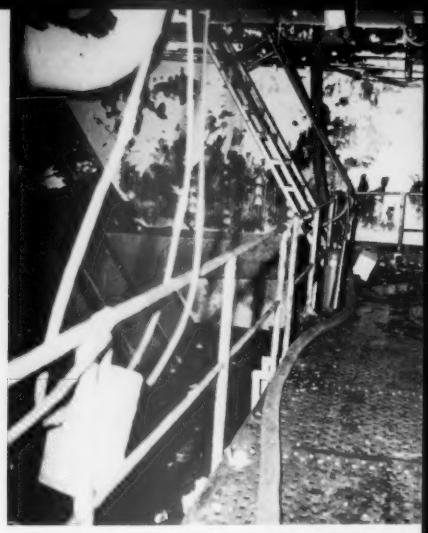
When he regained communications, LT Dolenti switched the IFF to Code 7700 while LT Hentz gave a Mayday position and situation report on Guard. After discussing their injuries, the damage to the aircraft, and the options available to them, the crew decided to make an immediate emergency landing at the nearest suitable airport. Since they were in communication with Roanoke Approach Control, they decided to land at Roanoke Municipal Airport. Twenty minutes after the birdstrike, they successfully landed their damaged *Intruder*.

LT Hentz and LT Dolenti displayed superb professionalism, airmanship, and judgment. Their actions, executed flawlessly, prevented what could easily have been the loss of an aircraft and crew.



LT John Dolenti (left); LT Gary Hentz (right).

Z
ZULU



→→ EGRESS FROM SMOKE-FILLED

"WHO are all these people moving like hoodlums through smoke chambers, and why are they wearing such strange bags over their heads? Look at that guy! He's gliding around that fire like his life depends upon it!"

Your life may depend upon it, too. The "bags" are really the Navy's latest development in emergency breathing devices, the EEBD. The E*E*B**What?* It's called the Emergency Escape Breathing Device, and it's the coming thing in emergency egress (two carriers are being outfitted with it right now).

Now don't stop reading. This isn't just another unstrappable, unwieldy, bewildering piece of safety apparatus to be demonstrated once a year during standdowns (just before the 1959 boating safety film and after the breathless aerobic lecture). *It's easy. You slip the headpiece on. You pull a pin. You breathe.*

"We've fought fires with it, and it never burned. Even the little plastic piece on the face won't melt," says BTCS Jackie L. Willis, an instructor at the Navy Firefighting School in Norfolk.

But what is the Navy using *now*? Why does the Navy always push new safety devices when what we really need is some better ship's movies? What's the story with all this emergency breathing, anyway?

We're glad you asked. Let's take a short, deadly history lesson. During the 1960s, the Navy experienced three very serious fires aboard the aircraft carriers ORISKANY, FORRESTAL, and ENTERPRISE. A total of 206 men lost their lives.

On 26 October 1966, USS ORISKANY was conducting high-tempo combat operations. During a period of frequent loading and unloading of aircraft ordnance, a MK-24 parachute flare was inadvertently activated and tossed into a flare magazine. The ensuing fire burned for 5 hours and resulted in 44 fatalities. With one exception, *all died of smoke inhalation and asphyxiation*. Most deaths occurred in nearby staterooms that rapidly filled with smoke.

PH3 Ron Bellenot

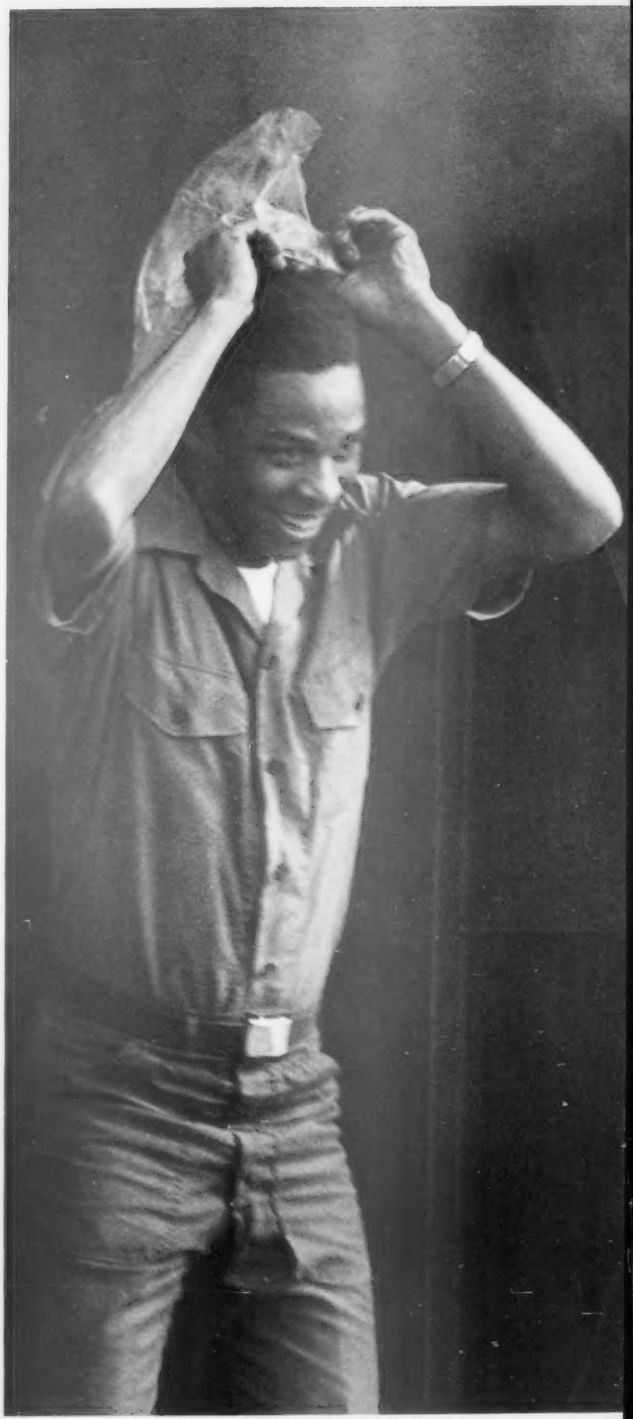
On 29 July 1967, USS FORRESTAL was launching a combat strike against the North Vietnamese. A Zuni rocket loaded aboard an F-4 aircraft was inadvertently fired and ruptured a 400-gallon fuel tank on another aircraft. Ninety seconds later, a 500-pound MK-82 bomb cooked off and exploded, causing more ordnance to detonate. For 17 hours, fire raged out of control before it was extinguished. In this fire, 134 men lost their lives, and total damage amounted to $72 million.

Eighteen months after the FORRESTAL fire, USS ENTERPRISE experienced a similar catastrophe. A jet starting unit was positioned too close to an aircraft so that its hot exhaust impinged upon the warhead of a loaded Zuni rocket. The rocket eventually cooked off. This in turn ruptured fuel tanks,

COMPARTMENTS

By Richard A. Eldridge
Contributing Editor

The new EEBD shown here is being introduced into the fleet this fiscal year.



led to large fuel spills which caught fire, and caused more ordnance to explode. The final tally was 28 fatalities and damage amounting to $56 million.

A full scale investigation was conducted on the causes of the three fires, lessons learned, and corrective action taken. The report of this investigation was entitled "Aircraft Carrier Fire Protection Improvement." A briefing on its contents was given to members of the House Armed Services Committee on 27 February 1979.

One of the report's major recommendations was to develop an emergency escape breathing device to be worn by personnel below decks or trapped in compartments. It was determined that such a device was necessary to provide these personnel with the capability of reaching a weather deck or the flight deck without being overcome by smoke inhalation. Each year, many fire-related shipboard deaths and injuries are attributable to smoke inhalation and toxic poisoning and not from the fire itself.

Introduced into the fleet in 1975, the emergency breathing device in use today is known as the SSD (Survival Support Device). There is an SSD for each person occupying a bunk in the berthing compartments of carriers. The SSDs are located in the berthing spaces and are immediately available for use during an emergency fire or egress situation. Instructions for their use, including illustrations, are printed on the wrapper. SSDs are installed on all Navy ships, but on ships other than carriers, they are found in the working spaces such as enginerooms, firerooms, pumprooms, and other below-deck spaces. The SSD provides 8 minutes of compressed air (50 percent oxygen and 50 percent nitrogen) to aid the individual in egressing from a smoke-filled compartment.

Instructions on proper donning of the SSD and evacuation of berthing compartments and workspaces are required by the damage control PQS, yet such basic lessons in survival are seldom demonstrated or rehearsed on a periodic basis.

The Emergency Escape Breathing Device will replace the SSD. It is suitable for use by all personnel under moderate to heavy work conditions and provides respiratory and eye protection in any atmosphere containing toxic gas or having an oxygen deficiency (less than 16 percent by volume). The EEBD has a gas and watertight carrying case to protect it during storage, inspections, and necessary handling prior to its use. It can be removed from the case, donned, and activated in 30 seconds. A pull-pin operates the EEBD, and once the device is activated, it cannot be shut off. It is a single-use, disposable unit, and it lasts 15 minutes.

A primary requirement of the EEBD was the development of a device which required no corrective maintenance, repair parts, support, or test equipment. The EEBD has been designed for a shelf life of 5 years. Surveillance testing of the production lots will be conducted, however, with the intention of extending the shelf life to a minimum of 10 years.

Navy firefighting schools will begin training with EEBDs next year. The first ships scheduled to begin installing the devices are USS CARL VINSON (CVN 70) and USS SARATOGA (CV 60), during FY 82. All carriers, LHAs, and LPHs are due to be outfitted by the end of FY 83. Outfitting of other Navy ships is scheduled to continue until completion in FY 86.

In March 1976, the Naval Sea Systems Command sponsored a workshop on shipboard fire protection, research, and development. One of the sections under Technological Development was entitled "What Have You Done for the Fleet Sailor's Life Today?" The following was stated as one of the problems: "In a fire or other escape situation, investigations have shown that improvements are needed to direct personnel in choosing the route of escape. Even high-intensity lights can be seen only a short distance under moderately smoky conditions. Especially on large ships, it is easy to become lost or disoriented and even go into the danger instead of away from it."

The solution to this problem was the design of a system of reflective, luminescent markers and deck plans developed to assist personnel in becoming familiar with escape routes. Now installed aboard our carriers, the Egress Marking System provides easily identifiable escape routes to personnel trapped inside the ship during emergencies such as fires, where visibility is quickly lost or degraded. The marking system consists of assorted reflective, adhesive-coated labels positioned throughout the ship in conspicuous locations approximately 1 foot above the deck. The markers consist of EXIT signs and arrows marked EXIT. The arrows direct personnel along egress routes to the closest exit. Emergency exits and emergency routes are also marked with arrows supplemented with EMERGENCY markers. In addition to the arrows and exit markers, full deck plans and berthing compartment enlargements are also provided. The markers show the passageway configuration and the ladder and scuttle locations.

The following is a list of National Stock Numbers (NSNs) for the emergency egress markers referred to in the article.

Description of Marker	NSN 9G 7690-00-
Exit Arrow Left (LUM)	344-8283
Exit Arrow Left (REF)	334-6799
Exit Arrow Right (LUM)	111-6524
Exit Arrow Right (REF)	334-6801
Double Exit Arrow (LUM)	344-8314
Double Exit Arrow (REF)	334-6802
Exit (LUM)	357-7813
Exit (REF)	334-6803
Arrow Overlay	337-2911
You Are Here Overlay	339-1530
Arrow (LUM)	357-7814
Arrow (REF)	–
Hangar Deck (LUM)	344-8374
Hangar Deck (REF)	339-1536
Flight Deck (LUM)	344-8395
Flight Deck (REF)	337-2912
Starboard (LUM)	348-9221
Starboard (REF)	–
Emergency (LUM)	348-9222
Emergency (REF)	–
Port (LUM)	348-9234
Port (REF)	337-2913
Access (LUM)	348-9271
Access (REF)	337-2914
UP (LUM)	348-9273
UP (REF)	339-1537
Down (LUM)	348-9345
Down (REF)	348-9274

These markers can be ordered through standard Navy supply channels. The standard package is 25 markers of one type material. LUM stands for luminescent and REF for reflective. The markers are listed and pictured in Mil-Standard 18302.

In conjunction with the marking system, training drills should be conducted periodically to acquaint personnel with the routes available for egress. To make the tests as realistic as possible, all lights should be turned off, and selected routes blocked to simulate a damaged, impassable area.

In summation, the SSD and the forthcoming EEBD, together with the Egress Marking System, provide Navy shipboard personnel with a means of escaping from smoke-filled berthing spaces and work centers. All division officers and supervisors should ensure their men are familiar with the breathing device available and have made trial escapes over the indicated emergency routes specified by the Egress Marking System.

These two lifesaving innovations should go a long way toward preventing the loss of life experienced in the three catastrophic fires of the sixties. ◄

Translational transition

or, how not to prepare for your next reserve flight

By LCDR Walter K. Steiner
HS-75

HERE it is, 5 o'clock, and I'm supposed to be briefing now. I've still got 30 miles to go. That's about 25 minutes if I'm lucky with the lights. Let's see, when I get there, the first thing I've got to do is change into my flight suit, sign the Additional Drill Log (*never forget to sign the Additional Drill Log*), and see what aircraft I'm supposed to fly. If I'm the flight leader, I hope the SDO has briefed . . . WATCH OUT! That old ninny shouldn't be on the road (*never trust Rambler drivers*).

Jeez, I'm tired and my back hurts already. A 4-hour drive after working almost a whole day, and now I've got to fly 4 night hours. How much can I take, anyway? (*Better watch out for cops. They like this little turnoff coming up.*) Nope, no cops that time. Let's see, I've got to take Exit 27. I hope I've got sixty cents in change. What's that car on the side of the road?? Is it a breakdown or a . . . Oh no, it's a cop! I wonder if he's going to come after me. I bet he does! I wish my front end didn't vibrate at 55 – I can't see in my mirror. No, I guess he's not coming or he'd be after me by now. That's a good technique – cramming on the brakes when you see anything that even vaguely resembles a cop. Problem is, I'm getting older. I think my reactions must be slowing down. But my eyes are still good! Well, they get a little more glop in them now, but they're still pretty sharp.

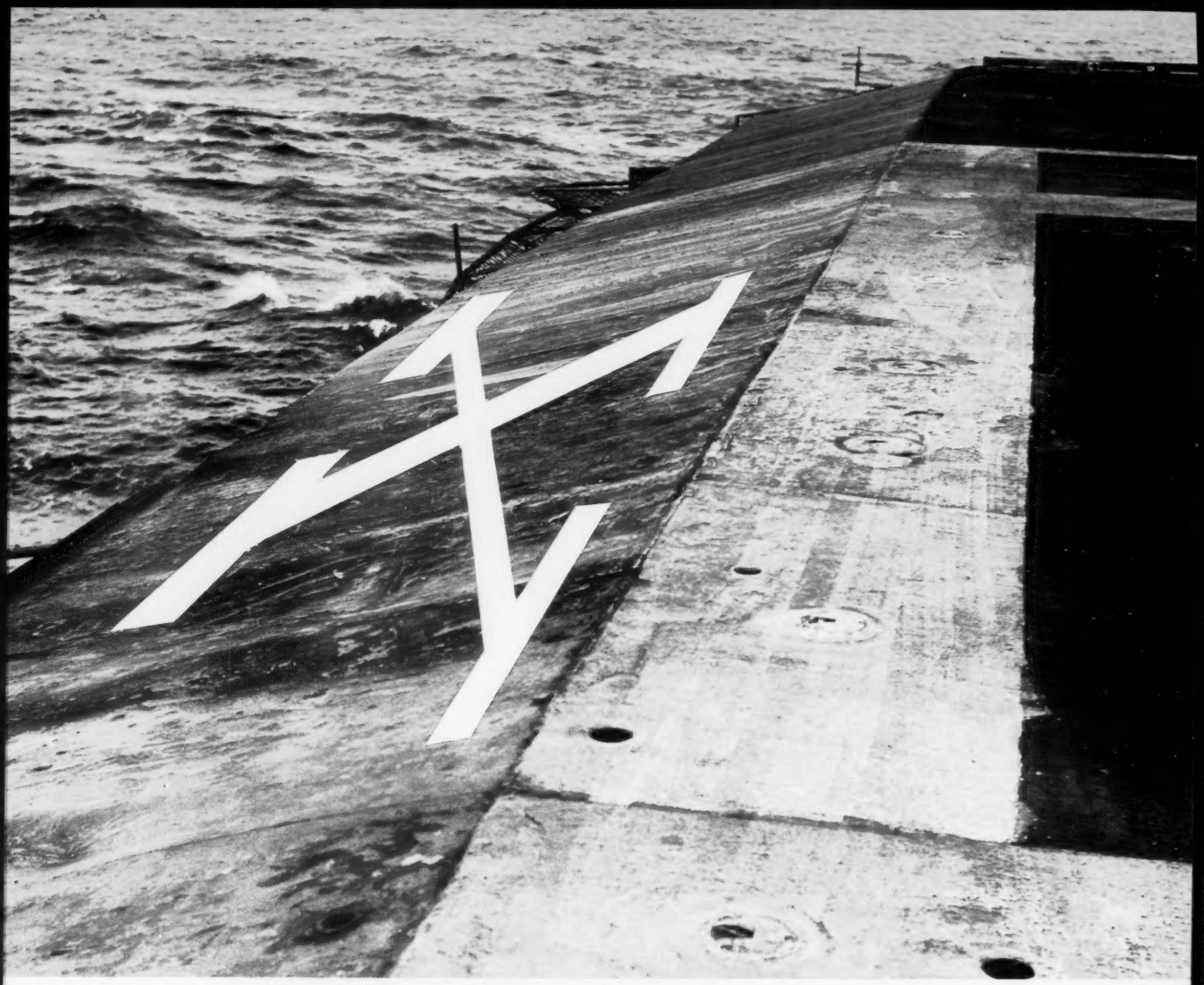
I remember, my skipper in Vietnam used to specifically take me along when we had to go find a ship because I'd be able to see it twice as far away as he could. 'Course, he'd slip his glasses on as soon as we'd take off . . . .

There's the exit. Let's see now, take the hammer lane as soon as I get on the road to the base . . . Oh yeah, if I'm flight leader, I've got to brief the flight: assign flight positions, communications, lost communications procedures, sonar frequencies, inadvertent IFR. Make sure I've got a weather brief number, NAV bag, TACAID, radio, and don't forget to sign for the stupid airplane or Chief Don Guido will want a case of beer again. I think I'm flying with "Sticks" tonight. Boy, what a knobdicker he is! I can't take my eyes off him for a minute . . . . Gawd, I'm tired, and my head hurts. I wish we hadn't stayed up so late last night. People who schedule parties during the week are dumb. I don't know why I let Suzie drag me to them. Next time, I'll just tell her, "No!" That should really do it. Ha!

Ah, there's the gate. Whaddya mean, you wanna see my ID card? What does that sticker on my bumper mean to you anyway? Yes, I know Paraguayan terrorists are everywhere. Here, here's my stupid card! You're very welcome, and have a nice day. (*Always such a hassle!*) Okay now, a good preflight, pick up a soda to drink, and let's get this thing into the air for two STARPs. Oh yeah, and let's be safe! ◄

...Where are the NAV bags? The mission has probably changed... we'll have to review the course rules... I wonder how many airplanes are up...
...How am I going to get the Administrator's presentation ready for Monday morning?...
...I hope Johnny's fever breaks before Suzie has to call the Doctor....

☆U.S. GOVERNMENT PRINTING OFFICE: 1981—539-005 19



INBOUND FLIGHT RULE:

ONE RAMP STRIKE

...and you're out!

Naval Safety Center
NAS Norfolk, Virginia

Poster idea contributed by AD2 Stanton Kapp, VR-58, NAS Jacksonville, FL.

When you're taxiing aircraft *ensure proper clearance.*

Naval Safety Center
NAS Norfolk, Virginia

Poster idea contributed by LCDR R. D. Reisig, VP-90